



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/074,414	02/12/2002	Hiroaki Endo	450100-03779	7006
20999	7590	02/16/2005	EXAMINER	
FROMMERM LAWRENCE & HAUG 745 FIFTH AVENUE- 10TH FL. NEW YORK, NY 10151				DHARIA, PRABODH M
ART UNIT		PAPER NUMBER		
		2673		

DATE MAILED: 02/16/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/074,414	Applicant(s) ENDO ET AL.
	Examiner	Art Unit
	Prabodh M Dharia	2673

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 07 October 2004.

2a) This action is **FINAL**. 2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-10 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) Claim(s) _____ is/are allowed.

6) Claim(s) 1-10 is/are rejected.

7) Claim(s) _____ is/are objected to.

8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.

10) The drawing(s) filed on 12 February 2002 is/are: a) accepted or b) objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) All b) Some * c) None of:
1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. _____.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) Notice of References Cited (PTO-892)
2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
4) Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
5) Notice of Informal Patent Application (PTO-152)
6) Other: _____

1. Status: Receipt is acknowledged of papers submitted on June 10-07- 2004 under amendments, which have been placed of record in the file. Claims 1-10 are pending in this action.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claim 1,4,6,9,10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kitagishi et al. (5,537,168) in view of Yamamoto et al. (5,774,105).

4. Claims 1,4-6,9,10, are rejected under 35 U.S.C. 102(b) as being anticipated by Regarding Claim 1, Kitagishi et al. teaches a liquid crystal projector apparatus (Col. 14, Lines 55-63) which includes a liquid crystal panel for optically modulating light from a light source with an input signal (Col. 9, Lines 40,41, Lines 59-67) and projects the optically modulated light from said liquid crystal panel to display an image (Col. 14, Line 55 to Col. 15, Line 4), characterized in that it comprises a temperature sensor for detecting a temperature at a location in said liquid crystal projector apparatus except said liquid crystal panel (Col. 16, Lines 38,39), a memory for storing temperature detection data obtained by said temperature sensor (Col. 16, 49-53) within a period from a power supply starting time to a steady operation entering time of said liquid crystal projector apparatus (Col. 15, Lines 49-55, Col. 16, Lines 38-40, Lines

49-54, Col. 2, Lines 32-34, Col. 19, Lines 22-24), arithmetic operation (calculation by controller) means for estimating a temperature of said liquid crystal panel based on the temperature detection data stored in said memory to indirectly obtain the temperature of said liquid crystal panel (Col. 19, Lines 65-67), and a liquid crystal drive section for correcting a drive voltage for driving said liquid crystal panel with an output signal of said arithmetic operation means and applying the corrected drive voltage to said liquid crystal panel (Col. 2, Lines 32-34, Col. 19, Lines 22-24, Col. 15, Lines 49-55, Col. 16, Lines 38-40, Lines 49-65, Col. 19, Line 65 to Col. 20, Line 3, Col. 19, Lines 38-45, Col. 14, Line 55 to Col. 15, Line 4, Col. 9, Lines 40,41, Lines 59-67).

However, Kitagishi et al. fails to teach indirect detecting of temperature, estimating temperature and adding a temperature of the temperature sensor and a temperature of a time shift period of the power supply.

However, Yamamoto et al. indirect detecting of temperature, estimating temperature and adding a temperature of the temperature sensor and a temperature of a time shift period of the power supply (Col. 4, Lines 14-19, Col. 5, Lines 31 to Col. 7, Line 31).

Thus it is obvious to one in the ordinary skill in the art at the time of invention was made to incorporate Yamamoto et al. teaching in Kitagishi et al. teaching to have a driving method of the liquid crystal display panel with correcting an error in the display due to environmental effect and liquid crystal being employed as a projection display.

Regarding Claim 4, Kitagishi et al. teaches the liquid crystal panel includes a liquid crystal panel for red, a liquid crystal panel for green and a liquid crystal panel for blue, and

wherein a first liquid crystal drive section corrects drive voltage for driving said liquid crystal panel for red with an output signal of said arithmetic operation means and applies the corrected drive voltage to said liquid crystal panel for red, a second liquid crystal drive section corrects a drive voltage for driving said liquid crystal panel for green with another output signal of said arithmetic operation means and applies the corrected drive voltage to said liquid crystal panel for green, and a third liquid crystal drive section corrects a drive voltage for driving said liquid crystal panel for blue with a further output signal of said arithmetic operation means and applies the corrected drive voltage to said liquid crystal panel for blue (Col. 6, Lines 12- 67, Col. 2, Lines 32-34, Col. 19, Lines 22-24, Col. 15, Lines 49-55, Col. 16, Lines 38-40, Lines 49-65, Col. 19, Line 65 to Col. 20, Line 3, Col. 19, Lines 38-45, Col. 14, Line 55 to Col. 15, Line 4, Col. 9, Lines 40,41, Lines 59-67).

Regarding Claim 5, Kitagishi et al. teaches liquid crystal projector apparatus further comprises a room temperature detection sensor for detecting a room temperature separately from said temperature sensor, and said arithmetic operation means arithmetically operates, at the power supply starting time, a difference between the temperature detection data of said temperature sensor and room temperature detection data of said room temperature detection sensor (Col. 2, Lines 32-34, Col. 19, Lines 22-24, Col. 15, Lines 49-55, Col. 16, Lines 38-40, Lines 49-65, Col. 19, Line 65 to Col. 20, Line 3, Col. 19, Lines 38-45, Col. 14, Line 55 to Col. 15, Line 4, Col. 9, Lines 40,41, Lines 59-67, Kitagishi et al. teaches detecting temperature, which is also a room temperature and if there is deterioration in display image at room temperature, correction is made calculating and correcting voltage to drive optics of the liquid crystal panel).

Regarding Claim 6, Kitagishi et al. teaches a liquid crystal projector apparatus (Col. 14, Lines 55-63) which includes a liquid crystal panel for optically modulating light from a light source with an input signal (Col. 9, Lines 40,41, Lines 59-67) and projects the optically modulated light from said liquid crystal panel to display an image (Col. 14, Line 55 to Col. 15, Line 4), characterized in that it comprises a temperature sensor for detecting a temperature at a location in said liquid crystal projector apparatus except said liquid crystal panel (Col. 16, Lines 38,39), a memory for storing temperature detection data obtained by said temperature sensor (Col. 16, 49-53) within a period from a power supply starting time to a steady operation entering time of said liquid crystal projector apparatus (Col. 15, Lines 49-55, Col. 16, Lines 38-40, Lines 49-54, Col. 2, Lines 32-34, Col. 19, Lines 22-24), arithmetic operation (calculation by controller) means for estimating a temperature of said liquid crystal panel based on the temperature detection data stored in said memory to indirectly obtain the temperature of said liquid crystal panel (Col. 19, Lines 65-67), and a liquid crystal drive section for correcting a drive voltage for driving said liquid crystal panel with an output signal of said arithmetic operation means and applying the corrected drive voltage to said liquid crystal panel (Col. 2, Lines 32-34, Col. 19, Lines 22-24, Col. 15, Lines 49-55, Col. 16, Lines 38-40, Lines 49-65, Col. 19, Line 65 to Col. 20, Line 3, Col. 19, Lines 38-45, Col. 14, Line 55 to Col. 15, Line 4, Col. 9, Lines 40,41, Lines 59-67).

However, Kitagishi et al. fails to teach indirect detecting of temperature, estimating temperature and adding a temperature of the temperature sensor and a temperature of a time shift period of the power supply.

However, Yamamoto et al. indirect detecting of temperature, estimating temperature and adding a temperature of the temperature sensor and a temperature of a time shift period of the power supply (Col. 4, Lines 14-19, Col. 5, Lines 31 to Col. 7, Line 31).

Thus it is obvious to one in the ordinary skill in the art at the time of invention was made to incorporate Yamamoto et al. teaching in Kitagishi et al. teaching to have a driving method of the liquid crystal display panel with correcting an error in the display due to environmental effect and liquid crystal being employed as a projection display.

Regarding Claim 9, Kitagishi et al. teaches the liquid crystal panel includes a liquid crystal panel for red, a liquid crystal panel for green and a liquid crystal panel for blue, and wherein a first liquid crystal drive section corrects drive voltage for driving said liquid crystal panel for red with an output signal of said arithmetic operation means and applies the corrected drive voltage to said liquid crystal panel for red, a second liquid crystal drive section corrects a drive voltage for driving said liquid crystal panel for green with another output signal of said arithmetic operation means and applies the corrected drive voltage to said liquid crystal panel for green, and a third liquid crystal drive section corrects a drive voltage for driving said liquid crystal panel for blue with a further output signal of said arithmetic operation means and applies the corrected drive voltage to said liquid crystal panel for blue (Col. 6, Lines 12- 67, Col. 2, Lines 32-34, Col. 19, Lines 22-24, Col. 15, Lines 49-55, Col. 16, Lines 38-40, Lines 49-65, Col. 19, Line 65 to Col. 20, Line 3, Col. 19, Lines 38-45, Col. 14, Line 55 to Col. 15, Line 4, Col. 9, Lines 40,41, Lines 59-67).

Regarding Claim 10, Kitagishi et al. teaches liquid crystal projector apparatus further comprises a room temperature detection sensor for detecting a room temperature separately from said temperature sensor, and said arithmetic operation means arithmetically operates, at the power supply starting time, a difference between the temperature detection data of said temperature sensor and room temperature detection data of said room temperature detection sensor (Col. 2, Lines 32-34, Col. 19, Lines 22-24, Col. 15, Lines 49-55, Col. 16, Lines 38-40, Lines 49-65, Col. 19, Line 65 to Col. 20, Line 3, Col. 19, Lines 38-45, Col. 14, Line 55 to Col. 15, Line 4, Col. 9, Lines 40,41, Lines 59-67, Kitagishi et al. teaches detecting temperature, which is also a room temperature and if there is deterioration in display image at room temperature, correction is made calculating and correcting voltage to drive optics of the liquid crystal panel).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 2,3,7,8, are rejected under 35 U.S.C. 103(a) as being unpatentable over Kitagishi et al. (5,537,168) in view of Yamamoto et al. (5,774,105) as applied to claims 1,4-6,9,10 above, and further in view of Takahara (6,628,355 B1).

Regarding Claim 2, Kitagishi et al. teaches a liquid crystal projector apparatus (Col. 14, Lines 55-63) which includes a liquid crystal panel for optically modulating light from a light source with an input signal (Col. 9, Lines 40,41, Lines 59-67)

However, Kitagishi et al. modified by Yamamoto et al. fails to teach a liquid crystal drive section controls a dc component of the drive voltage to be applied to said liquid crystal panel to correct the voltage.

However, Takahara teaches a liquid crystal drive section controls a dc component of the drive voltage to be applied to said liquid crystal panel to correct the voltage (Col. 84, Lines 42-44).

Thus it is obvious to one in the ordinary skill in the art at the time of invention was made to incorporate Takahara teaching in Kitagishi et al. modified by Yamamoto et al. teaching to have a driving method of the liquid crystal display panel with correcting a defect in the display due to environmental effect and liquid crystal being employed as a projection display.

Regarding Claim 3, Takahara teaches the light source and said liquid crystal panel are disposed in a housing, and said liquid crystal projector apparatus further comprises cooling means for circulating air in said housing without taking in external air to cool said liquid crystal panel in said housing (Col. 95, Line 53, Col. 96, Lines 27-31).

Regarding Claim 7, Takahara teaches the liquid crystal drive section controls a dc component of the drive voltage to be applied to said liquid crystal panel to correct the voltage (Col. 84, Lines 42-44).

Regarding Claim 8, Takahara teaches the light source and said liquid crystal panel are disposed in a housing, and cooling means circulates air in said housing without taking in external air to cool said liquid crystal panel in said housing (Col. 95, Line 53, Col. 96, Lines 27-31).

Response to Arguments

7. Applicant's arguments with respect to claims 1 and 6 have been considered but are moot in view of the new ground(s) of rejection.
8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Applicant is informed that all of the other additional cited references either anticipate or render the claims obvious. In order to not to be repetitive and exhaustive, the examiner did draft additional rejection based on those references.

Conclusion

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Prabodh M Dharia whose telephone number is 703-605-1231. The examiner can normally be reached on M-F 8AM to 5PM.

11. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bipin Shalwala can be reached on 703-3054938. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

12. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Any response to this action should be mailed to:

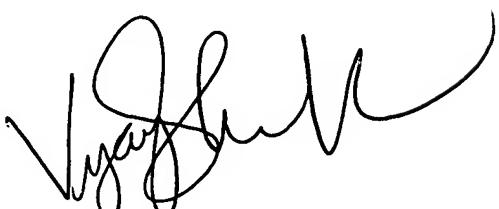
Commissioner of Patents and Trademarks

Washington, D.C. 20231

PD

AU2673

February 10, 2005



VIJAY SHANKAR
PRIMARY EXAMINER